

REMARKS/ARGUMENTS

Claims 1-21, 23-32, and 34-46 remain pending. Claims 22 and 33 have been canceled. Claims 1, 18, and 26 have been amended. No claims have been added. All prior claims were rejected as allegedly being anticipated by US Patent No. 6,195,164 in the name of Thompson et al. Reexamination and reconsideration of the pending claims, as amended, are respectfully requested.

Prior claims 1-46 were rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Thompson et al. Such a rejection is traversed in part and overcome in part as follows.

As described throughout the originally filed specification for this application, the present invention generally provides improved methods, devices, and systems for analyzing the calibration of laser calibration systems, and particularly for laser eye surgery systems used in laser *in situ* keratomileusis (LASIK) and other refractive treatment procedures. As illustrated and described with reference to figure 1, laser eye surgery systems are often used to alter the refraction of a patient's cornea. As described in paragraphs 5 and 6 of the originally filed specification, calibration of the laser system helps ensure removal of the intended shape and quantity of the corneal tissue so as to provide the desired shape and refractive power modification. Ablation of test plastic material is often performed prior to laser eye surgery to calibrate the energy, density and ablation shape of the laser. However, as indicated in paragraph 7 of the originally filed specification, while known calibration techniques are fairly effective, they still suffer from disadvantages, including those which may be associated with delay, the subjectiveness of system user evaluations, and the potential costs associated with specialized lens measurement equipment.

So as to allow highly accurate calibration of the laser eye surgery system, as described with reference to figures 2-6 of the originally filed specification, the present invention will often take advantage of wavefront sensor technology, and in exemplary embodiments those wavefront sensor systems employ a Hartmann-Shack sensor. As illustrated and described with reference to figure 7A and 7B of the originally filed specification, these systems may allow

wavefront maps of the ablated test surfaces to be generated, thereby allowing highly accurate calibration (and in some circumstances, adjustments to) laser eye surgery system using sensor technologies that are generally used for precise measurements of a patient's cornea in preparation for surgery.

Independent claim 1 previously recited a method for analyzing calibration of a laser ablation system, with the method including selectively ablating a test surface with the laser system, and analyzing light directed from a light source through the test surface. Prior dependent claim 22 specified that the light was analyzed by measuring wavefront data and using a reconstruction algorithm to generate a surface map of the test surface. While applicants acknowledge the Thompson et al. reference represents a significant advancement in the art, applicants note that the claim elements of prior dependent claim 22 go well beyond transforming light into electrical signals (as addressed on page 3 of the office action mailed on May 1, 2007 for this case). As the record of this application fails to support any allegation of obviousness of prior dependent claim 22, much less anticipation of claim 22, applicants respectfully submit that the subject matter prior dependent claim 22 is allowable over the cited art.

To expedite issuance of this application, applicants have amended claim 1 to include the elements of prior dependent claim 22. Hence, claim 1 and the dependent claims which depend therefrom are now in condition for allowance.

Regarding prior dependent claim 18, that claim recites that the light is allowed to pass through a wavefront lens array, and that the passed light is sensed with a light detection device. Hence, claim 18 is allowable for many of the reasons given above regarding claim 22.

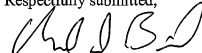
Regarding claim 26, that claim has been amended to recite a calibration apparatus that includes a light detection assembly including a wavefront sensor. Additionally, claim 26 recites that the processor of the calibration apparatus comprises hardware, software and/or firmware for applying a Zernike reconstruction algorithm, a fourier reconstruction algorithm, or both to derive at least one surface map of the test surface from wavefront data measured by a light detection assembly. Hence, claim 26 is also allowable for many of the reasons given above regarding claims 1 and 22.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,



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